

The Sustainability of Synthetic Policy Decision Groups

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ABSTRACT

One major issue in group decision-making concerns the duration of a group as an effectively functioning entity. Many factors provide possible explanations for differences in the expected life span of a group versus its actual life span. We lack adequate knowledge about the dynamics and duration of “synthetic groups,” that is, groups who would not otherwise form nor operate, unless and until they are brought together by external authorities and/or events, such as a crisis, to serve a specific purpose or address a particular issue.

Using literature on groups and group model building, we model the dynamics of synthetic groups in crisis situations. We identify several factors to guide group behavior and development and serve as useful variables for construction of dynamic models or simulations. These variables include “group factors” such as: 1) number and types of agenda items, 2) number, intensity, and persistence of issue conflicts, 3) number, types, and quality of policy proposals, 4) sources, quality, and consistency of information available and used, 5) number, types, and frequency of official representation at meetings, 6) number, types, and influence of experts, 7) frequency and duration of meetings, 8) quality and acceptance of the group’s decisions, and 9) expected versus actual duration of the group. Additionally, we consider the elements of argumentation (e.g., claims, evidence, warrants, and backings) taken from the work of Steven Toulmin, as a

fundamental orientation for understanding group decision-making. We find that Toulmin's argumentation forms are applicable to group policy decisions, in general, and specifically to crisis policy decision-making by synthetic groups comprised of public officials operating in the public domain and for the presumed public interest. The model is tested for two cases. The first case is based on materials from Allison's study of the Cuban Missile Crisis, including recently de-classified documents involving White House recordings of group discussions held in the Office of the President. The other case involves intensive interactions between national, state, and local government officials who responded to a crisis with potentially serious health, economic, and political consequences in the local government arena. Data for this second case comes from extensive notes and transcripts of group meetings and follow-up, in-depth interviews with key participants.

Introduction

The literature on group decision-making is as extensive as it is complex. Among the numerous issues considered in the past 50 years include studies into the performance and productivity of groups, as well as individuals within groups, (McGrath, 1984; Witte and Davis, 1996) as a function of group size (Maier and Hoffman, 1960; Davis, Bray, and Holt, 1977; Davis, 1980; Stroebe and Frey, 1982); group composition (Van de Ven, 1974), the structure of in-group communications, including communication structures that support the task and social-emotional orientations of group members (Bales, 1970; Steiner, 1972; Shaw, 1976; Shaw, 1978); the types of group tasks performed (Steiner, 1983); methods to guide group activities and to more effectively cope with complexity, uncertainty, and conflict among group members (Stein, 1975; Delbecq, Van de Ven, and Gustafson, 1975; MacCrimmon and Taylor, 1976; Nutt, 1974, 1977); use of heuristics by individuals as it implicitly influences intra-group conflicts and behaviors (Slovic, Lichtenstein, and Fischhoff, 1976; Brehmer, 1976; Davis, Bray, and Holt, 1977; Nisbett and Ross, 1980; Kahneman, Slovic, and Tversky, 1982); differing capabilities between group members in a variety of situational circumstances (Steiner, 1983; Stroebe, Diehl, and Abakoumkin, 1996); differences in predispositions and attitudes toward risk and risk preferences incorporating the so-called "risky shift" phenomena (Wallach, Kogan, and Bem, 1962; Brehmer, 1976; Volkema, 1983; MacCrimmon and Wehrung, 1986; Tindale, Sheffey, and Scott, 1993); shared beliefs or representations, including sensitivity of group members to attributional errors (Tindale, Smith, Thomas, Filkins, and Sheffey, 1996); the self-conscious structuring of group tasks, as a possible priming strategies, to maximize potential process gains and to minimize potential process losses (Hackman, Brousseau, and Weiss, 1976; Hackman and Morris, 1978, McGrath, 1984; Stroebe, Diehl, and Abakoumkin, 1996); and motivational gains and losses related to group performance, including the problems of free riding and social loafing (Kerr and Bruun, 1983; Stroebe, Diehl, and Abakoumkin, 1996). More extensive reviews of group performance and group model building can be found in McGrath, 1984; Levine and Moreland, 1990; Witte and Davis, 1996; Parks and Sanna, 1999; and Hsaio and Richardson, 1999.

Renewed interest in the prescriptive aspects of group research reflects a re-emerging interest in the self-conscious selection of strategies by group members to guide group efforts (e.g., Hsaio and Richardson, 1999; Rowette, Vennix, and van Mullekon, 1999). Studies of process gains (Stroebe, Diehl, and Abakoumkin, 1996), suggest that variations in task characteristics (i.e., additive, conjunctive, and disjunctive tasks) combine with differences in the incentive structures

(i.e., rewards and/or sanctions) to create complex group processes that affect motivational and task-related gains and losses perceived by group members. These gains or losses may substantially alter group performance and productivity even in the short run. Measures of group performance and productivity include the quality, acceptability, accuracy, and timeliness of the arguments as well as technical, social, political, and economic feasibility of recommended actions (Delbecq, Van De Ven, and Gustafson, 1975; Nutt, 1977, Van Gundy, 1981). The conditions emphasized in this paper include the crafting public policies by “synthetic policy groups” under conditions of extreme stress, sustained external pressures from external stakeholders that include other public officials and the media, and relatively short time periods in which policy decisions must be debated, chosen, scheduled, and implemented.

The context in which policy groups operate exerts a powerful influence over the formation, identity, and purposes of the group. It affects the particular group’s structure and helps to determine the unique task demands and requirements imposed on the group (Barker, 1965; McGrath, 1984). The structural and task features of the group, in turn, influences the behavior setting in which group members interact and communicate. Specification of the key elements and properties of the behavior setting yields important insights to clarify core concepts relevant to group model building research, in general, and to the development of specific system dynamic models that represent unique group behaviors, in particular. Most importantly, investigation of dynamic, system behaviors of synthetic, policy-making groups will aid future efforts to build double-loop learning systems for group policy-making.

This study seeks to model the dynamics of decision-making activities by synthetic policy groups comprised of public officials who operated under conditions of crisis with substantial and significant risks to public health and well-being. The two case studies involved groups of public officials who would not be expected to operate as a group. In other words, the group’s very existence and, to a large extent, its membership, was driven by the conditions of each crisis and by the task characteristics of situation at hand.

Conceptual Framework

Discussions, debates, and decisions in policy groups always involve some type of modeling, however formal or informal. These communication activities occur within a system in which group members influence each other and themselves thereby altering the group’s “pattern of structured relationships” (McGrath, 1984: 16). Each group member seeks to impose order over his/her own definitions of the situation while simultaneously seeking to understand and influence the definitions of the situation held by each other group member. Of course, this is occurring throughout the group, although influence attempts may not be uniformly patterned or directed to all group members at any moment in time.

The literature on groups and group decision-making rarely considers the relationship between the group structure, group members behaviors, and the specific and unique situational circumstances. The situation context that surrounds the group provides important information to stakeholders outside the group as they select specific group members and identify group purposes prior to the group’s initial formation. The relationship of the situational context to the group’s dynamic functioning over time highlights the importance of group “interfaces” that mediate relationships

within the group as well as between the group and its surrounding environment. Group interfaces generally include: 1) relationships between pre-existing knowledge, experience and skills of individual group members and the “demands” of the situation, as well as other defining task characteristics of the situation, as perceived and discussed by group members (Hsaio and Richardson, 1999); 2) technologies used in producing information, mobilizing knowledge, or fostering communications and communicative competence within and outside of the group (Robbin and Frost-Kumpf, 1997); and 3) unfolding of embedded contexts, including changes in the group focus and orientation that shape the dialogue within the group and between members of the group and key stakeholders outside of the group (Senge, 1990).

The lack of a more complete specification of these interfaces suggests a conceptual gap that, when bridged with appropriate operational definitions and studies, may clarify and simplify our notions of group dynamics and behaviors while revealing new and deeper insights into the antecedents and correlates of group performance and productivity across a wide array of situations. We believe that such conceptual simplification can be achieved and elaborated through the construct of the behavior setting” (Barker, 1965; McGrath, 1984).

Building on the works of Roger Barker (Barker, 1965), McGrath defines the behavior setting as “the juxtaposition of the standing group and the task situation”(McGrath, 1984: 16). He also defines the standing group as the “patterned relations among group members”; relations which serve as the foundation for group structure and group identity (McGrath 1984: 16). The task situation is defined as a “pattern of task demands and requirements” (McGrath, 1984: 16) that includes concepts such as task difficulty, task complexity, task uncertainty, task ambiguity, and task conflict.

The concept of the behavior setting is conceptually appealing, operationally definable, and theoretically significant for representing group behaviors in specific situations. However, upon closer examination, McGrath leaves many concepts to be further identified and elaborated under this complicated, but conceptually robust model of group behavior and performance. Specifically, while McGrath and others emphasized the task dimensions of the behavior setting and the influence of task dimensions on group behaviors (McGrath, 1984: 15-17), the behavior setting remains an elusive construct that links the structure of group relationships, i.e., the standing group, with the behavior of the group per se, i.e., the acting group. The interface of group structure to individual and group behavior locates the fundamental transactions whereby group interaction processes unfold to link members of the group to the task demands of the situation at hand, and thereby reinforce the identity of the group as a group, in action. As noted by McGrath (McGrath, 1984: 16), “the acting group and the behavior setting are the ‘action’ and ‘state’ sides of the same coin”.

The behavioral setting is viewed as a domain in which communicative acts unfold between the members of the group as they collectively, and often implicitly, define the task situation in conjunction with group membership and group identity at that moment in time. The interactions of those involved in policy groups are communicative acts of a very special kind. Specifically, such acts can be disaggregated and represented as arguments over competing individual constructs or schema. Sharing individual schema produces a group schema or mental model, however, ill-defined (again, the extent to which group schema is well-defined depends on the

nature and quality of the group interaction processes). The group schema or group mental model consists of a series of negotiated agreements regarding the definitional context of intra- and inter-group communications of social roles, responsibilities, and relationships within and toward the group by each group member; the evaluative context of group purposes, goals, objectives, and criteria; the situational context of specific task demands and task requirements, including task properties, as a collection of problems or issues to be acted upon by the group; and the actionable context of planned and realized actions, strategies, and solutions defined in tandem with the group's problematique (the defined set of issues and problems within the group) that is imposed by the group onto the surrounding, situational context. As the group defines elements of these contexts, they implicitly define the domain of the behavior setting in which specific types of speech acts occur as intra-group communications.

These speech acts can be further elaborated as forms of argumentation as described by Toulmin (Toulmin, 1958; Toulmin, Rieke, and Janik, 1979; and Dunn, 1994). Argumentation or practical discourse is viewed as an alternative to the positivist tradition. It is rooted in the alternative epistemological system initially developed by Jurgen Habermas' and known as critical theory. This phenomenological approach is subjectivist in epistemological orientation, eschews the fact-value dichotomy in favor of normative and prescriptive purposes, and is concerned with "establishing knowledge about 'what ought to be done' rather than 'what is the case'." (Fischer, 1980: 11). Toulmin's work provides a methodological bridgework that defines rules to "mediate normative and empirical judgments" in debates that seek to answer normative and prescriptive questions related to "what ought to be done, i.e., what action ought to be taken, to address the situation at hand" (Fischer, 1980: 12).

Practical discourse or argumentation provides a set of constructs and rules for understanding policy debates within a group, especially under crisis conditions. As noted by Dunn (Dunn, 1994: 92) and Toulmin (Toulmin, 1958: 127), practical reasoning "yields conclusions 'about which we are not entirely confident by relating them back to other information about which we have greater assurance'. Practical arguments are never certain and seldom are they ever deductive or analytical." The elements and structures of argumentation can be represented as a state space in which the behaviors of the acting group are manifest through the behavior setting. Changes to the state space can be represented by the structure of argumentation within a group in accordance with the patterned relations among group members, i.e., the structure of group, and the pattern of task demands and requirements of the task situation, which shapes the content and focus of arguments.

The elements of argumentation are defined and detailed with many examples by Toulmin (Toulmin, 1958) and, applied to debates of public policy by Dunn (Dunn, 1994). The key elements include:

policy declarations or policy claims: represent largely inductive conclusions about a series of claims with supporting reasons and information (or evidence) that reflect statements of knowledge which, according to Dunn (Dunn, 1994: 92), can include: 1) designative policy claims, claims that concern what might be the likely outcomes associated with alternative policy actions; 2) evaluative policy claims, claims that concern the net value or net worth associated with alternative policy actions; 3) advocative policy claims, claims that concern which policy

alternative ought to be adopted. This last category corresponds closely with Fischer's approach to policy analysis, focusing on questions of what ought to be done rather than what is the case.

policy information or policy evidence: statements of data or evidence that have been “selectively chosen, interpreted, and organized for the purposes of establishing a policy argument” (Dunn, 1994: 132) or plausibility of a policy claim.

policy reasons or warrants: statements of assumptions, principles, or reasons used to “certify that a policy claim is plausibly true, given the policy information or evidence supplied and seeks to answer the question of why” (Dunn, 1994: 133), i.e., the claim is plausible because the evidence suggests it is reasonable and since the reasons behind the claim support the linkage of policy relevant information, and possibly other warrants, to the claim.

policy supports or backings: statements of “assumptions, principles, or supporting reasons to increase the plausibility of one or more warrants” (Dunn, 1994: 131) or increase the relevance or credibility of the policy information or evidence supporting specific claims.

policy assessments or qualifiers: statements regarding individual and group assessments of the validity of the policy claim (expressed in terms of confidence or plausibility of an argument's structure of claims, evidence, warrants and backings when evaluated against counter-arguments, i.e., alternative hypotheses and/or explanations comprised of competing claims, evidence, warrants, and backings).

We view claims, evidence, warrants, and backings as key elements leading to changes in the state space that establishes the policy group's behavior setting and sets the stage for future intra-group behaviors, e.g., dialogue and discussion over future policy statements, recommendations, and actions. Policy arguments weave together many of the important features of groups, including 1) the definitional, evaluative, situational, and actionable contexts that shape the situation at hand, 2) the structure of relationships between group members that form the basis for the standing group, 3) the behavioral setting of the group as a linkage of the standing group to its task situation, and 4) the behaviors manifest within the group as an acting group. Policy arguments are the speech acts of policy groups and their members that help them to learn about the nature of the task situation before them, to sift through the conceptual constructs or schema about current and future conditions, and to identify, debate, and select actions and/or action recommendations to improve conditions as they are currently defined and understood by the group. It is through argumentation and its elements of policy relevant claims, information, warrants, and backings that groups find structure and, at a deeper level of group functioning, implicitly frame the behavior setting that influences both the standing and the acting aspects of group life. As these schema eventually evolve into complex policy arguments, they can be used to identify and debate alternative policies and policy actions that are expected, in some future period, to alleviate the causes that led to the formation, purposes, and continued existence of the policy group.

Figure 1 identifies the initial elements of our model of argumentation framed as a system dynamics model. Claims, evidence (information), warrants, and backings of each argument within the policy group are represented as stocks that accumulate over time. We have

represented only one argumentation form here due to space limitations. Unlike the traditional representations of policy arguments which considers confidence, i.e., plausibility and acceptance at the level of the argument itself (see Dunn, 1994), we consider confidence at the level as a judgment assigned by group members, individually and collectively, to each elements of the argument, i.e., claims, evidence, warrants, and backings. This argumentation logic is the foreground context of groups in which competing policy claims and other elements of the dialogue between group members are actively considered, weighed, and negotiated.

The degree of confidence placed in competing arguments, and their elemental features, impacts on the behavior setting and behavioral outcomes associated with group efforts. Arguments in the behavior setting are represented in our model by situationally defined configurations consisting of interactions between 1) group membership or structure, i.e., the standing group, defined in terms of official representation; 2) agenda items imposed on or identified by the group; 3) issue conflicts discussed by the group; and 4) alternative policy proposals debated within the group.

Enactment of group behaviors, through dynamic interplay of argumentation logic with the elements of the behavior setting, directly affects the behavioral outcomes associated with policy group activities, including the duration of each group meeting as well as the expected length of meetings; the duration of the policy group as a working and/or productive group; the acceptance of recommendations and/or decisions made by the group, and the quality attached to group results, in the form of recommendations and/or decisions.

The quality of the group decisions reflects the quality of arguments and dialogue made by members of the policy group. Arguments put forth by the policy group are evaluated both by group members when considering the impact of their arguments and by external authorities upon reviewing the group's recommendations and/or decisions. Two sets of tests are identified to establish the validity of the group's results. These include instrumental/technical tests and social/political tests. These tests are used to assess the impact of policy arguments and dialogue on the structural and behavioral dynamics of the group in relationship to the evaluation of its output, performance, and productivity. The instrumental or technical tests include: technical acceptability, technical feasibility, and instrumentality of means chosen or recommended to resolve the crisis. The social and political tests are represented as tests of: 1) economic cost-benefit; 2) loss of social capital with other stakeholders, the media, or the public; 3) collateral impacts of policy recommendations or decisions on others not party to the decision-making process; and 4) political feasibility. Such tests form the deep background context in which groups operate and provide a set of constraints and parameters to the group as they engage in argumentation and dialogue.

Concluding Thoughts

While this initial foray into a more complete theoretical and conceptual treatment of group dynamics and performance may be applied to most any type of task acquired by any policy group, it is clear that further modifications will be necessary. Such modifications could be realized by including a protocol to discover and codify what is learned about the group dynamics and performance as group members actually experiences such processes. In this way, those

actors participating in the group would co-create the model of their group behavior with the group's "decision analyst", facilitator, and other support systems or staff.

The central challenge to building models of policy group dialogue and decision-making is to overcome gaps in our knowledge about the dynamics of groups as it applies to changing group processes and shifting task situations for crisis driven, public policy determining events. Modeling group behaviors from natural settings using the tools of system dynamics will likely produce immensely useful insights into group dynamics. However, appropriate limits must be placed on the contexts in which dynamic models of group functioning and group behavior as a structure and a system of action are built and applied.

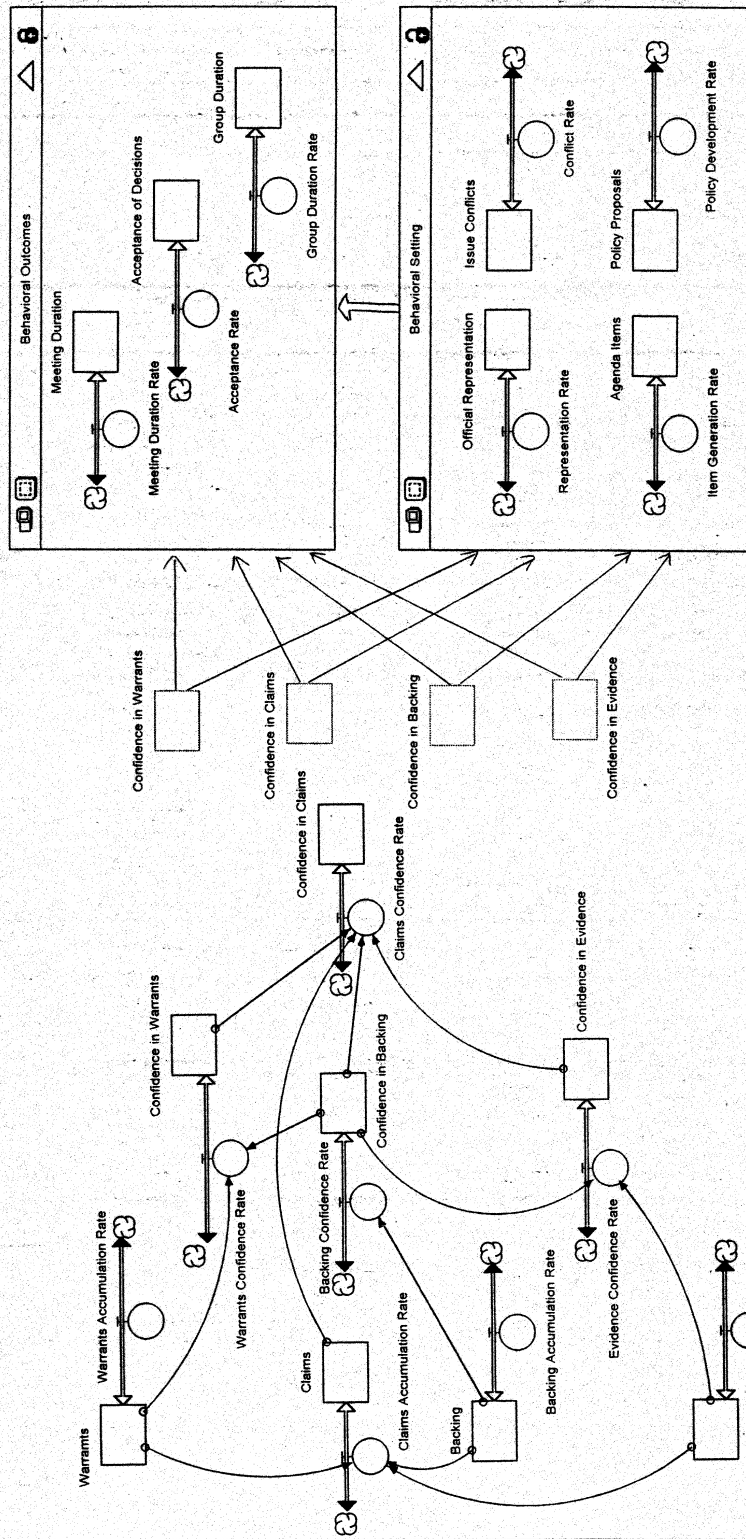
We have proposed a conceptual framework to guide our efforts in building a model of group behaviors, as represented by key concepts associated with group behavior, performance, and productivity integrated with the elements of argumentation and dialogue embedded within a particular set of unique policy-making situations and contexts in the public sector. Our next step is to complete the model building effort through qualitative, content analysis of the dialogue within the groups selected for the two case studies. Our intentions are to model the accumulation of claims, evidence, warrants, and backings within the two policy groups over time and to represent the dynamics of arguments made, won, or lost during the two events considered. We will report on these results at the conference.

Quality of Arguments Filter – Background Context

Technical Feasibility Instrumentality (means) Political Feasibility Social Capital

Economic (cost/benefit) Collateral Impact Acceptability (responsiveness, credibility, completeness, logicity)

Argumentation Logic – Foreground Context



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